

Att'y Ref. No. 003-064

U.S. App. No.: 10/616,295

1. (Currently Amended) An atomizer device for the production of a liquid-gas mixture, the mixture useful for being introduced for the purpose of compression into a nozzle arrangement in which the kinetic energy of the mixture is in large part converted into compression energy of the gaseous component, the atomizer device comprising:

a nozzle member having an at least substantially central pipe for the gaseous medium, a rotationally symmetrical nozzle chamber surrounding the pipe for the liquid medium, and a nozzle aperture; and

a liquid feed having means for producing a swirled liquid flow in the nozzle chamber;

wherein the nozzle aperture coaxially encloses the pipe; and

wherein the liquid feed opens tangentially into the nozzle chamber.

2. (Cancelled)

3. (Previously Presented) An atomizer device according to claim 1, wherein the nozzle aperture is annular, and the nozzle chamber tapers to the annular nozzle aperture.

4. (Currently Amended) A method for the production of a liquid-gas mixture by an atomizer device, the mixture produced useful for being introduced into a nozzle arrangement in which the kinetic energy of the mixture is in large part converted into compression energy of the gaseous component, the method comprising:

causing a swirled liquid flow to emerge from a nozzle aperture of the atomizer device to produce a swirling hollow conical spray expanding in a flow direction, and to produce a reduced pressure zone within the spray; and

causing the gaseous medium to enter the reduced pressure zone via a central feed; and

introducing the swirled liquid flow in the nozzle chamber through at least one liquid feed opening tangentially into the nozzle chamber.

5. (Previously Presented) A method according to claim 4, comprising:

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producing the swirled liquid flow in a nozzle chamber surrounding the central feed.

6. (Cancelled)

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